

**WHAT IS CLAIMED IS:**

5        1. A draw tower for optical fiber producing systems, the draw tower supporting a preform feed unit, a furnace, a spinning nozzle, a diameter gauge, and a coating unit thereon, the draw tower comprising:

10        a plurality of vertical frames assembled in stacked relation, each of said frames consisting of a column vertically erected at each corner to form a square structure, a plurality of horizontal beams horizontally extending between upper ends and lower ends of the columns, and a cantilever beam diagonally connected between each of said columns;

15        the cantilever beam of at least one upper frame of said plurality of frames has a cross-sectional area smaller than that of a cantilever beam of a lower frame of said plurality of frames, thus reducing weight of an upper part of said draw tower; and

20        the columns of at least one lower frame of said plurality of frames each having walls of increased thickness with respect to the columns of the upper part of the draw tower, thus reinforcing a lower part of the draw tower in addition to preventing vibration of the draw tower wherein a support structure is provided at a lowest-most frame of the draw tower for additionally supporting the lower part of the draw tower.

25        2. The draw tower according to claim 1, wherein said columns, said horizontal beams, and cantilever beams are hollow.

3. The draw tower according to claim 1, wherein said support structure comprises a base for supporting a bottom portion of said lowest-most frame, said base including:

25        a horizontal support panel for seating the lowest-most frame thereon; and  
an inclined beam supporting the column at each corner of said lowest-most frame.

4. The draw tower according to claim 3, wherein a plurality of reinforcing rims are provided under the horizontal support panel for maintaining a desired strength of said panel.

5 5. The draw tower according to claim 3, further comprising a support plate provided under a lower end of said inclined beam for supporting the inclined beam, and a plurality of arms extending from the inclined beam, each having a finger perpendicularly mounted to one of an upper part, a middle part and a lower part of said vertical column.

10 6. The draw tower according to claim 5, wherein an inclined beam is provided at each of four corners of said lowest-most frame and have different lengths, with the fingers being installed at different positions.

15 7. A draw tower for optical fiber producing systems, the draw tower having a plurality of frame structures, the frame structures having a substantially cubic shape including at least one cantilever beam between columns of the frame structure, an uppermost frame structure having at least one cantilever beam with a cross-sectional area smaller than a cross-sectional area of cantilever beams of a bottommost frame structure, and columns of the bottommost frame structure being thicker than columns of the uppermost frame structure.

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